

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Withdrawn) An isolated or purified polynucleotide comprising:
 - a) a nucleotide sequence with at least 60%, at least 80%, or at least 95% identity with SEQ ID NO:1 (DG747) or SEQ ID NO: 2 (DG772);
 - b) a nucleotide sequence with at least 10 consecutive nucleotides identical to SEQ ID NO: 1 or SEQ ID NO: 2; or
 - c) a nucleotide sequence that hybridizes under highly stringent conditions with a polynucleotide according to a) or b).
- 2-3. (Canceled).
4. (Currently Amended) An isolated or purified polypeptide comprising a peptide sequence corresponding to consisting of SEQ ID NO: 3 (DG747).
5. (Currently Amended) An isolated or purified polypeptide comprising:
 - a) a peptide sequence with at least 40 consecutive amino acids identical to SEQ ID NO: 3 (DG747); or
 - b) a peptide sequence polypeptide having 95% identity with ~~SEQ ID NO: 3 (DG747)~~ the sequence as claimed in claim 4.

6-7. (Canceled).

8. (Currently Amended) A recombinant or chimeric recombinant polypeptide, comprising an isolated or purified polypeptide as claimed in claim 4.

9. (Previously Presented) An isolated or purified antigen comprising:

- a) an isolated or purified polypeptide as claimed in claim 5 or
- b) a recombinant or chimeric recombinant polypeptide comprising at least one polypeptide according to a).

10. (Previously Presented) An antigenic conjugate comprising at least one isolated or purified antigen as claimed in claim 9 and a support on which said antigen is adsorbed.

11. (Previously Presented) A conjugate according to claim 10, wherein the support is microspheres, microparticles of latex beads, polyphosphoglycan microparticles (PGLA), or polystyrene microparticles.

12. (Withdrawn) A process for immunizing individuals who are infected or susceptible of being infected with malaria comprising administering to the individuals a conjugate as claimed in claim 10.

Reply to Office Action
Application Serial No.: 10/712,533
New Attorney Docket No.: 03495.0380-00000

13. (Withdrawn) A product comprising a monoclonal or a polyclonal antibody specifically recognizing
 - a) at least one isolated or purified antigen as claimed in claim 9;
 - b) an antigenic conjugate comprising at least one isolated or purified antigen as claimed in claim 9 and a support on which said antigen is adsorbed; or
 - c) a combination of the at least one antigen and the antigenic conjugate.
14. (Withdrawn) A product comprising an antibody as claimed in claim 13, wherein said antibody is humanized.
15. (Withdrawn) A vector comprising a polynucleotide as claimed in claim 1 incorporated into a cloning or expression vector.
16. (Withdrawn) A vector as claimed in claim 15, wherein said polynucleotide is incorporated into a site that is not essential to replication of said vector.
17. (Withdrawn) A vector as claimed in claim 15, wherein said vector is a plasmid, cosmid, or phage.
18. (Withdrawn) A host cell comprising a vector as claimed in claim 15.

19. (Withdrawn) A recombinant *E. coli* cell, wherein said cell is a cell deposited at the Collection Nationale de Culture de Microorganisms, Paris, France (CNCM) under Accession No. I-2671 or I-2672.
20. (Withdrawn) An immunogenic composition comprising at least one isolated or purified antigen as claimed in claim 9 or an antigenic conjugate comprising at least one isolated or purified antigen as claimed in claim 9 and a support on which said antigen is adsorbed; and a pharmaceutically acceptable vehicle.
21. (Withdrawn) An immunogenic composition according to claim 20, further comprising alum, QS21, montanide, SBAS₂ adjuvant, or incomplete Freund's adjuvant.
22. (Withdrawn) An immunogenic composition as claimed in claim 20, wherein the support is a microparticle.
23. (Withdrawn) An immunogenic composition as claimed in claim 20, wherein said antigen is in the form of DNA.
24. (Withdrawn) An immunogenic composition as claimed in claim 20, wherein said immunogenic composition further comprises a peptide molecule, wherein the

peptide molecule is CS, MSP-1, MSP-3, LSA-1, TRAP, STARP, SALSA, SALSA I, SALSA II, or LSA-3.

25. (Withdrawn) An immunogenic composition as claimed in claim 20, wherein said immunogenic composition can produce a cell response; a humoral response, or a cell response and a humoral response *in vivo*, *in vitro*, or *in vivo* and *in vitro*.
26. (Withdrawn) An immunogenic composition as claimed in claim 20, wherein said immunogenic composition allows the production of γ -interferon by leukocytes from subjects immunized with irradiated sporozoites.
27. (Withdrawn) An immunogenic composition as claimed in claim 20, wherein said immunogenic composition produces a humoral IgG response.
28. (Withdrawn) An immunogenic composition according to claim 27, wherein said response is a type IgG1, a type IgG2, a type IgG3, or a type IgG4 humoral response, or any combination thereof.
29. (Withdrawn) An immunogenic composition as claimed in claim 20, wherein said immunogenic composition is capable of inducing, *in vivo* and *in vitro*, protection by a challenge infection with *Plasmodium falciparum*.

30. (Withdrawn) An anti-malaria vaccine comprising:

at least one isolated or purified antigen as claimed in claim 9 or an antigenic conjugate comprising at least one isolated or purified antigen as claimed in claim 9 and a support on which said antigen is adsorbed; and a pharmaceutically acceptable vehicle.
31. (Withdrawn) A vaccine according to claim 30, wherein said vaccine further comprises a peptide molecule, wherein the peptide molecule is CS, MSP-1, MSP-3, LSA-1, TRAP, STARP, SALSA, SALSA 1, SALSA II, or LSA-3.
32. (Withdrawn) A pharmaceutical composition comprising an active substance and a pharmaceutically acceptable vehicle, wherein the active substance is at least one monoclonal or polyclonal antibody according to claim 13, and wherein the antibody is optionally humanized.
33. (Withdrawn) A pharmaceutical composition according to claim 32, further comprising alum, QS21, montanide, SBAS₂ adjuvant, or incomplete Freund's adjuvant.
34. (Withdrawn) A method of treating malaria comprising administering a product to a human, wherein the product comprises:
 - a) at least one isolated or purified antigen as claimed in claim 9 or

- b) an antigenic conjugate comprising at least one isolated or purified antigen as claimed in claim 9 and a support on which said antigen is adsorbed.
35. (Withdrawn) An *in vitro* process of detecting malaria in an individual susceptible of being infected with *Plasmodium falciparum*, wherein the process comprises:
- a) bringing a biological sample removed from an individual who is susceptible of being infected with *Plasmodium falciparum* into contact with an antibody according to claim 13 under conditions allowing the formation of an immune complex between said antibody and an antigen that may be present in said sample, wherein said sample is a fluid, tissue, or fluid and tissue and wherein the antibody is optionally humanized; and
 - b) detecting *in vitro* any immune complex formed.
36. (Withdrawn) An *in vitro* process of detecting malaria in an individual susceptible of being infected with *Plasmodium falciparum*, wherein the process comprises:
- a) bringing a biological sample removed from an individual susceptible of being infected with *Plasmodium falciparum* into contact with at least one isolated or purified antigen as claimed in claim 9 or an antigenic conjugate comprising at least one isolated or purified antigen as claimed in claim 9 and a support on which said antigen is adsorbed under conditions allowing the formation of an immune complex between the at least one antigen or

- the antigenic conjugate and an antibody that may be present in said sample, wherein said sample is a fluid, tissue, or fluid and tissue; and
- b) detecting *in vitro* any immune complex formed.
37. (Withdrawn) A process as claimed in claim 35, wherein step a) further comprises bringing the sample into contact with a peptide molecule, wherein the peptide molecule is CS, MSP-1, MSP-3, LSA-1, TRAP, STARP, SALSA, SALSA 1, SALSA II, or LSA-3.
38. (Withdrawn) A kit for diagnosing malaria *in vitro*, wherein the kit comprises:
- a) at least one isolated or purified antigen as claimed in claim 9 or an antigenic conjugate comprising at least one isolated or purified antigen as claimed in claim 9 and a support on which said antigen is adsorbed;
- b) primary reagents for constituting a medium suitable for a binding reaction between an antibody in a test sample and the at least one antigen or the antigenic conjugate; and
- c) secondary reagents allowing the detection of an antigen-antibody complex or an antigenic conjugate-antibody complex produced by said binding reaction, wherein said secondary reagents optionally carry a label susceptible of being recognized by a tertiary reagent, wherein the tertiary reagent is labeled.

39. (Withdrawn) A kit for diagnosing malaria *in vitro*, wherein the kit comprises:
 - a) at least one antibody as claimed in claim 13, wherein said antibody is optionally humanized;
 - b) primary reagents for constituting a medium suitable for allowing a binding reaction between an antigen in a test sample and said antibody; and
 - c) secondary reagents allowing the detection of an antigen-antibody complex produced by said binding reaction, wherein said secondary reagents optionally carry a label susceptible of being recognized by a tertiary reagent, wherein the tertiary reagent is labeled.
40. (Withdrawn) A kit for diagnosing malaria *in vitro* as claimed in claim 38, wherein the kit further comprises a peptide molecule, wherein the peptide molecule is CS, MSP-1, MSP-3, LSA-1, TRAP, STARP, SALSA, SALSA 1, SALSA II, or LSA-3.
41. (Canceled).
42. (Previously Submitted) A recombinant or chimeric recombinant polypeptide comprising an isolated or purified polypeptide as claimed in claim 5.
43. (Withdrawn) A process as claimed in claim 36, wherein step a) further comprises bringing the biological tissue, the biological fluid, or the biological tissue and

biological fluid into contact with at least one epitope from CS, MSP-1, MSP-3, LSA-1, TRAP, STARP, SALSA, SALSA 1, SALSA II, or LSA-3.

44. (Withdrawn) A kit for diagnosis of malaria *in vitro* as claimed in claim 39, wherein the kit further comprises a peptide molecule, wherein the peptide molecule is CS, MSP-1, MSP-3, LSA-1, TRAP, STARP, SALSA, SALSA 1, SALSA II, or LSA-3.
45. (New) An isolated or purified polypeptide comprising the 64 amino acids of SEQ ID NO: 3 (DG747).

46. (New) An isolated or purified polypeptide comprising:
 - a) a polypeptide with at least 40 consecutive amino acids identical to the sequence claimed in claim 45; or
 - b) a polypeptide having 95% identity with the sequence claimed in claim 45.